RECORD AND BRIEFS

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No. 16-402

IN THE

Supreme Court of the United States

TIMOTHY IVORY CARPENTER,

Petitioner,

v.

UNITED STATES,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Sixth Circuit

BRIEF OF *AMICI CURIAE* EMPIRICAL FOURTH AMENDMENT SCHOLARS IN SUPPORT OF PETITIONER

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TABLE OF CONTENTS

	Page
TABLE OF AUTHORITIES	ii
INTEREST OF *AMICI CURIAE*	1
SUMMARY OF THE ARGUMENT	1
ARGUMENT	2
I. EMPIRICAL RESEARCH DEMONSTRATES THAT PEOPLE MAINTAIN AN EXPECTATION OF PRIVACY IN THEIR HISTORICAL CELL SITE LOCATION INFORMATION	2
A. The Presumption Employed By The Court Below And Other Courts Of Appeals In Order To Invoke The Third Party Doctrine Is Belied By Statistical Evidence	2
B. Research Demonstrates That Most People Have An Expectation Of Privacy In Both Cell Site Location Information And GPS Location Information	4
II. THE DATA ARE DOCTRINALLY SIGNIFICANT IN THIS COURT'S FOURTH AMENDMENT JURISPRUDENCE	10
CONCLUSION	16

TABLE OF AUTHORITIES

CASES

Page

In re Historical Cell Site Data, 724 F.3d 600 (5th Cir. 2013) 3
Ballew v. *Georgia*, 435 U.S. 223 (1978) 12
Brandin v. *State*, 669 So. 2d 280 (Fla. Dist. Ct. App. 1996) 12
Brown v. *Bd. of Educ. of Topeka*, 347 U.S. 483 (1954) 12
California v. *Ciraolo*, 476 U.S. 207 (1986) 10
City of Ontario v. *Quon*, 560 U.S. 746 (2010) 10
Commonwealth v. *Johnson*, 75 N.E.3d 51 (Mass. App. Ct. 2017) (Wolohojian, J., dissenting) 12
Florida v. *Jardines*, 133 S. Ct. 1409 (2013) 10, 11
In re Gault, 387 U.S. 1 (1967) 12
Georgia v. *Randolph*, 547 U.S. 103 (2006) 10
Katz v. *United States*, 389 U.S. 347 (1967) (Harlan, J., concurring) 4
Kyllo v. *United States*, 533 U.S. 27 (2001) 11, 14
Love v. *State*, NO. AP-77,024, 2016 WL 7131259 (Tex Ct. Crim. App. Dec. 7, 2016), *reh'g denied* (Apr. 12, 2017) 12, 13
Minnesota v. *Olson*, 495 U.S. 91 (1990) 10
Rakas v. *Illinois*, 439 U.S. 128 (1978) 11
Smith v. *Maryland*, 442 U.S. 735 (1979) 10, 15
United States v. *Carpenter*, 819 F.3d 880 (6th Cir. 2016) 2, 4
United States v. *Davis*, 785 F.3d 498 (11th Cir. 2015) (en banc) 2, 3

TABLE OF AUTHORITIES—continued

Page

United States v. *Jacobsen*, 466 U.S. 109 (1984) 11

United States v. *Jones*, 565 U.S. 400 (2012) 11

United States v. *Leon*, 468 U.S. 897 (1984) 12

COURT DOCUMENT

Transcript of Oral Argument, *Brendlin* v. *California*, 551 U.S. 249 (2007) (No. 06-8120) 12

OTHER AUTHORITIES

Alisa Smith, Sean Madden & Robert P. Barton, *An Empirical Examination of Societal Expectations of Privacy in the Digital Age of GPS, Cell Phone Towers, & Drones*, 26 Alb. L.J. Sci. & Tech. 111 (2016) 8, 9

Bernard Chao, Catherine S. Durso, Ian P. Farrell & Christopher T. Robertson, *Why Courts Fail to Protect Privacy: Race, Age, Bias, and Technology*, 106 Cal. L. Rev. (forthcoming 2018) 7, 14

Chris Jay Hoofnagle & Jennifer M. Urban, *Alan Westin's Privacy Homo Economicus*, 49 Wake Forest L. Rev. 261 (2014) 4, 5

Christine S. Scott-Hayward, Henry F. Fradella & Ryan G. Fischer, *Does Privacy Require Secrecy? Societal Expectations of Privacy in the Digital Age*, 43 Am. J. Crim. L. 19 (2015–2016) 8, 9, 16

TABLE OF AUTHORITIES—continued

Page

Christopher Slobogin, *Privacy at Risk: The New Government Surveillance and the Fourth Amendment* (2007) 14, 16

Christopher Slobogin, *Proportionality, Privacy, and Public Opinion: A Reply to Kerr and Swire*, 94 Minn. L. Rev. 1588 (2009–2010) 13

Christopher Slobogin & Joseph E. Schumacher, *Reasonable Expectations of Privacy and Autonomy in Fourth Amendment Cases: An Empirical Look at "Understandings Recognized and Permitted by Society"*, 42 Duke L.J. 727 (1993) 15

Erwin Chemerinsky, *Rediscovering Brandeis's Right to Privacy*, 45 Brandeis L.J. 643 (2006–2007) 14

Janice Nadler, *No Need to Shout: Bus Sweeps and the Psychology of Coercion*, 2002 Sup. Ct. Rev. 153 (2002) 13

Matthew B. Kugler & Lior Jacob Strahilevitz, *Actual Expectations of Privacy, Fourth Amendment Doctrine, and the Mosaic Theory*, 2015 Sup. Ct. Rev. 205 (2015) ..... *passim*

Matthew B. Kugler & Lior Jacob Strahilevitz, *The Myth of Fourth Amendment Circularity*, 84 U. Chi. L. Rev. (forthcoming 2017) 15

Matthew Tokson, *Knowledge and Fourth Amendment Privacy*, 111 Nw. U. L. Rev. 139 (2016) 3, 4

TABLE OF AUTHORITIES—continued

Page

Orin S. Kerr, *Do We Need a New Fourth Amendment?*, 107 Mich. L. Rev. 951 (2009) 13

Pew Research Center, *Public Perceptions of Privacy and Security in the Post-Snowden Era* (Nov. 12, 2014), http://www.pewinternet.org/files/2014/11/PI_PublicPerceptionsofPrivacy_111214.pdf 5

Richard A. Posner, *The Uncertain Protection of Privacy by the Supreme Court*, 1979 Sup. Ct. Rev. 173 (1979) 14

Shari Seidman Diamond & David J. Franklyn, *Trademark Surveys: An Undulating Path*, 92 Tex. L. Rev. 2029 (2014) 12

Yannis Bakos, Florencia Marotta-Wurgler & David R. Trossen, *Does Anyone Read the Fine Print? Consumer Attention to Standard-Form Contracts*, 43 J. Legal Stud. 1 (2014) 4

INTEREST OF *AMICI CURIAE*[1]

Amici are professors (identified in the Appendix) whose research and teaching include the Fourth Amendment, empirical analysis of the criminal justice system, and, specifically, empirical analyses of the public's "reasonable expectations." They file this brief to urge this Court to reverse the Sixth Circuit, recognize that the Fourth Amendment governs the inquiry here, and find that authorities violate the Fourth Amendment when law enforcement collect cell site location data without first obtaining a warrant.

SUMMARY OF THE ARGUMENT

The Court has recognized that public expectations of privacy are relevant to the Fourth Amendment. A growing body of social science research shows that a majority of people: (1) do not knowingly convey their location information to cell phone providers; and (2) believe that law enforcement needs to obtain, and ought to obtain, a search warrant before gathering this information. These studies addressed a range of surveilled information (cell site location and GPS tracking) and conduct (by cell phone providers and by law enforcement). On average across all the studies more than 60% of survey respondents (and often upwards of 70-80%) emphatically asserted a privacy interest in the information contained on or emitted from their cell phones. In relative terms, these priva-

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[1] In accordance with Supreme Court Rule 37.3, *amici curiae* states that no counsel for any party to these proceedings authored this brief, in whole or in part. No entity or person, aside from *amici curiae*, its members, and its counsel, made any monetary contribution for the preparation or submission of this brief. Petitioner and Respondent have consented to the filing of this brief. Letters reflecting such consent have been filed with the Clerk.

cy interests are as strong, or stronger, than paradigmatic cases where the Court has required law enforcement officials to first obtain a warrant.

These empirical data, detailed below, expressly undercut the Sixth Circuit's reliance on the third party doctrine in deciding this case, and affirmatively support a finding that warrantless searches of this information violate the Fourth Amendment. This Court should employ these empirical data—a critical tool that informs the proper scope and functioning of the Fourth Amendment—and reverse the decision below.

ARGUMENT

I. EMPIRICAL RESEARCH DEMONSTRATES THAT PEOPLE MAINTAIN AN EXPECTATION OF PRIVACY IN THEIR HISTORICAL CELL SITE LOCATION INFORMATION.

A. The Presumption Employed By The Court Below And Other Courts Of Appeals In Order To Invoke The Third Party Doctrine Is Belied By Statistical Evidence.

In relying on the third party doctrine to dispose of Mr. Carpenter's case, the Sixth Circuit presumed that citizens knowingly and voluntarily reveal their cell site location information to third party cell phone providers. *United States* v. *Carpenter*, 819 F.3d 880, 888–89 (6th Cir. 2016) (citing *United States* v. *Miller*, 425 U.S. 435, 442 (1976) and *Smith* v. *Maryland*, 442 U.S. 735 (1979)). Other courts of appeals have similarly found that cell site location information falls outside the bounds of Fourth Amendment protection under the third party doctrine. See, *e.g.*, *United States* v. *Davis*, 785 F.3d 498, 511 (11th Cir. 2015) (en banc) (cell phone users "know . . . that cell phone

companies make records of [their] cell-tower usage"); *In re Historical Cell Site Data*, 724 F.3d 600, 612 (5th Cir. 2013) ("[U]sers know that they convey information about their location to their service providers when they make a call and . . . they voluntarily continue to make such calls.").

This presumption, however, is undermined by empirical research. In one recent study, only 26.5% of American cell phone users expressed even a general awareness that their cell phone companies may track their locations. Matthew Tokson, *Knowledge and Fourth Amendment Privacy*, 111 Nw. U. L. Rev. 139, 177 (2016). Specifically, when 841 adult cell phone users were asked whether their "cell phone service provider regularly collect[ed] information on your physical location using your cell phone", 73.5% of respondents answered either "No" (15.0%) or "I Don't Know" (58.5%).[2] *Id.* The 26.5% of participants who answered "Yes" were then asked an open-ended follow-up question: "Please describe how your cell phone service collects information on your physical location." Even with the most liberal coding—any response that could reasonably be interpreted as referring to cell site location tracking was counted as doing so—only 12.7% of this "Yes"-answering subset

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[2] Participants were recruited through M-Turk, an online workforce commonly used for survey and experimental research. The sample was not nationally representative and compared with 2010 census data, was more male (53.5% compared with 49.2%), younger (for example, 56.2% of participants were between ages 18–34 compared with 30.6% of the U.S. population), and better educated (for example, 46.7% of participants had a bachelor's degree or higher compared with 27.3% of the U.S. population).

could be deemed to have been referring to cell-site tracking. *Id.*[3]

Thus, although lower courts have been quick to attribute to cell phone users both knowledge and the voluntary display of cell site information, the data shows otherwise. Compare *Carpenter*, 819 F.3d at 888 ("any cellphone user who has seen her phone's signal strength fluctuate must know that, when she places or receives a call, her phone 'exposes' its location to the nearest cell tower and thus to the company that operates the tower"), with Tokson, *supra* p. 3, at 164–66, 179 ("results . . . suggest[ing] that many courts have imputed knowledge about cell phone technology and surveillance practices that users do not possess").

B. Research Demonstrates That Most People Have An Expectation Of Privacy In Both Cell Site Location Information And GPS Location Information.

Empirical research likewise informs the threshold Fourth Amendment inquiry of whether a reasonable expectation of privacy exists in cell site location data. *Katz* v. *United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring). A substantial set of empirical research demonstrates that people generally expect privacy in this domain. Some studies focus on the general question of privacy interests in electronic de-

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[3] Nor could knowledge and voluntariness be gleaned from cell service providers' official privacy policies because 89.8% of respondents neither read the policy nor even skimmed it in detail. *Id.* at 178; *accord* Yannis Bakos, Florencia Marotta-Wurgler & David R. Trossen, *Does Anyone Read the Fine Print? Consumer Attention to Standard-Form Contracts*, 43 J. Legal Stud. 1, 20 (2014) (in the user-clickstream data context, confirming that actual reading of user agreements and privacy policies is even lower than rates of self-reporting).

vices more broadly. See, *e.g.*, Chris Jay Hoofnagle & Jennifer M. Urban, *Alan Westin's Privacy Homo Economicus*, 49 Wake Forest L. Rev. 261 (2014); see also Pew Research Center, *Public Perceptions of Privacy and Security in the Post-Snowden Era* 34–35 (Nov. 12, 2014), http://www.pewinternet.org/files/2014/11/PI_PublicPerceptionsofPrivacy_111214.pdf (finding that people often think of privacy interests in their devices as extremely sensitive, on a level with their privacy interests in their homes). Other studies—including the four discussed below—have expressly dealt with privacy interests in cell site location and, relatedly, GPS tracking data. Although these projects approached the question of privacy expectations somewhat differently and surveyed a slightly different mix of the national population, the result was always the same: more people expect privacy in their cell-site location information than do not.[4]

Several studies focused in whole or in part on the mere collection of cell phone data, in both the cell site location and GPS contexts. The studies also variously considered historic and real-time surveillance. In one study, scholars asked a nationally representative sample[5] of 739 U.S. citizens whether it would "violate people's reasonable expectations of privacy if law en-

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[4] The expectation of privacy was generally stronger in the GPS tracking context than in the cell site location context because these surveys often implied that GPS tracking was more precise (and thus more invasive), but the expectation was strong in both domains and in all the studies.

[5] In other words, their sample mirrored the U.S. adult citizen population in terms of gender, race, and age. Matthew B. Kugler & Lior Jacob Strahilevitz, *Actual Expectations of Privacy, Fourth Amendment Doctrine, and the Mosaic Theory*, 2015 Sup. Ct. Rev. 205, 245 n.162, 256 n.188 (2015) ("*Actual Expectations of Privacy*").

forcement . . . obtained from their cell-phone company stored information about whether their cell phone was near a particular location on a particular day." *Actual Expectations of Privacy, supra* note 5, at 258–60. Forty-nine percent reported that this conduct violated their expectations of privacy, while 31% said it did not, and 20% remained neutral. *Id.* at 260. That study also examined real-time GPS tracking and showed that a majority believes this practice also infringes on their privacy rights, and does so even in cases of very short-term tracking. Respondents were asked whether it would violate people's reasonable expectations of privacy if police "used a car's onboard GPS system" to (1) locate it, and (2) track it (for one day, one week, and one month). Depending on the duration of the surveillance, between 54% and 63% of participants reported that it would, as opposed to the range of respondents (19%-27%) who said it would not. *Id.* at 257. Notably, a follow-up study randomly varied the phrasing of the questions, asking respondents about "expectations of privacy," "reasonable expectations of privacy," or merely "privacy." Researchers found that altering the phrasing of the questions had no significant effect on the results. *Id.* at 248. No matter how the questions were phrased, a substantial majority of Americans believed GPS surveillance of any duration conflicted with their expectations of privacy and outnumbered by a 25-30% margin those who did not view it as intrusive. *Id.* at 257–58.[6]

A separate 1,200-person study that phrased the questions differently found that 85% of people believed it would violate their expectations of privacy if

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[6] The same follow-up showed that changing the wording from the third person ("people's" expectations) of privacy to the first person ("your" expectation of privacy) increased privacy expectations somewhat. *Id.* at 248–49.

the police obtained from their cellphone provider their location data for a 7-month period.[7] Bernard Chao, Catherine S. Durso, Ian P. Farrell & Christopher T. Robertson, *Why Courts Fail to Protect Privacy: Race, Age, Bias, and Technology*, 106 Cal. L. Rev. (forthcoming 2018).[8] That same study gave participants a scenario in which police attached a GPS tracker to the bottom of their vehicle and tracked it for 28 days. *Id.* at 48. Ninety-one percent of participants responded that this violated their expectations of privacy, the highest of any of the 18 scenarios tested.[9] *Id.* at 47. Strikingly, the authors found privacy expectations in location tracking to be greater than in cases where the Court has instructed that a warrant is required, such as use of an infrared camera to peer inside a house, and even on par with physically searching a suspect's bedroom. *Id.* at 57. In contrast, nearly three times as many people found privacy vio-

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[7] The researchers found somewhat lower expectations of privacy when they asked the question in the third person and specified that police found evidence of criminal activity. In that condition, an estimated 60% of people believed that obtaining cell site location information violated a person's reasonable expectation of privacy. Chao et al., *supra* p. 7, at 40-41, 44 Fig.1.

[8] Although the sample was not nationally representative, the authors reweighted the sample to more closely approximate the national population. Overall, the authors found that non-white participants had higher expectations of privacy in location data. The Chao et al. paper will appear later this year in the California Law Review. The results appear in a pre-publication version of the paper that is available here: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2924744.

[9] Again, the higher percentages here are attributed to the presumption of innocence embedded in the questions. As noted above in note 7, the percentages drop when respondents are told that authorities had pre-existing indicia of criminal behavior.

lations in location tracking than questioning at a roadblock.

Thus, nearly half of respondents in one study found the very fact of cell site and GPS data collection violative of privacy rights regardless of duration; the numbers increased substantially when scholars added a lengthy time component and told respondents to imagine an innocent target, as Fourth Amendment doctrine arguably requires.

A third study, which focused on real time surveillance, found that 60.6% of respondents agreed (33.3%) or strongly agreed (27.3%) that "[a]n individual has an expectation of privacy in the location data emitted from his or her cell phone" compared to only 14.4% who disagreed (11.5%) or strongly disagreed (2.9%). Alisa Smith, Sean Madden & Robert P. Barton, *An Empirical Examination of Societal Expectations of Privacy in the Digital Age of GPS, Cell Phone Towers, & Drones*, 26 Alb. L.J. Sci. & Tech. 111, 128, 133 (2016).

Finally, several studies probe people's views on actual law enforcement activities and duties, rather than their own views about what they hold private. When 1,195 individuals were asked to choose from a range of circumstances under which law enforcement should be able to access their "approximate past location information from cell phone tower signals," more than three-quarters of respondents selected a probable cause standard or higher (78.9%). Christine S. Scott-Hayward, Henry F. Fradella & Ryan G. Fischer, *Does Privacy Require Secrecy? Societal Expectations of Privacy in the Digital Age*, 43 Am. J. Crim. L. 19, 52–53 (2015–2016).[10] Respondents overwhelming-

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[10] Participants were recruited through M-Turk and the sample was not nationally representative. Compared to the United

ly believed that law enforcement should either never be able to access this information (20.4%) or that they should have to demonstrate probable cause in order to access this information (58.5%). *Id.* Only 1.8% thought that the police should be able to access this data at any time without some level of process or suspicion. *Id.* Participants were also asked about their views on police access to location data derived from the GPS in their smartphones. Depending on the duration of tracking (one-time to two-to-four weeks), between 79.3% and 83.4% of participants thought that police officers should either have probable cause to access this information or that they should never be allowed to access it. Only 1.6–2.0% thought that it should be available without some level of process or suspicion. *Id.*

One of the studies previously mentioned replicates these results. When asked, 72.5% of respondents agreed (35.7%) or strongly agreed (36.8%) that "[t]he police must obtain a warrant, based on a showing of probable cause, from a judge to obtain tracking information through the use of a cell phone" compared to 9.6% who disagreed (6.8%) or strongly disagreed (2.8%). Smith et al., *supra* p. 8, at 128, 133. A similar question involving GPS tracking found that 66.7% of participants in their study agreed or strongly agreed that police should have to obtain a warrant before tracking a person for a month using a GPS device on their car. *Id.*

To be sure, these studies are varied in scope, approach and content, but they are uniformly transparent about their datasets and methods. And *all* of

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States population, the sample included more males (56.7% compared with 49.2%), more Asians (9.6% compared with 4.8%), fewer Hispanics (8% compared with 16.3%) and fewer blacks (7.9% compared with 12.6%).

these studies reach the same result with respect to gathering historic cell site data without a warrant: it is deemed by average Americans to be highly unexpected, intrusive, or disturbing. No research suggests otherwise.

II. THE DATA ARE DOCTRINALLY SIGNIFICANT IN THIS COURT'S FOURTH AMENDMENT JURISPRUDENCE.

The empirical data set forth above can and should provide assistance to courts, including this Court, in assessing the scope and proper application of the Fourth Amendment.

First, this Court has generally accounted for the actual privacy expectations of ordinary Americans in many different Fourth Amendment contexts. *Smith*, 442 U.S. at 742–43 ("doubt[ing] that people in general entertain any actual expectation of privacy in the numbers they dial."); *California* v. *Ciraolo*, 476 U.S. 207, 213–14 (1986) (private property visible to the naked eye "is not [a privacy] expectation that society is prepared to honor."); *Minnesota* v. *Olson*, 495 U.S. 91, 98–99 (1990) ("To hold that an overnight guest has a legitimate expectation of privacy in his host's home merely recognizes the everyday expectations of privacy that we all share."); *Georgia* v. *Randolph*, 547 U.S. 103, 111 (2006) ("constant element in assessing Fourth Amendment reasonableness in the consent cases, then, is the great significance given to widely shared social expectations . . ."); *City of Ontario* v. *Quon*, 560 U.S. 746, 758–60 (2010) (noting that "the Court would have difficulty predicting how employees' privacy expectations will be shaped by those changes or the degree to which society will be prepared to recognize those expectations as reasonable" in the context of work-issued pagers); *Florida* v. *Jardines*, 133 S. Ct. 1409, 1415–16 (2013) ("A license

may be implied from the habits of the country, notwithstanding the strict rule of the English common law as to entry upon a close.") (internal citation omitted). But cf. *United States* v. *Jacobsen*, 466 U.S. 109, 122–24 (1984) (emphasizing normative considerations rather than expectations in applying *Katz*).

What people expect and understand has consistently been a key consideration in search and seizure cases. *Rakas* v. *Illinois*, 439 U.S. 128, 143 n.12 (1978) (noting that "[l]egitimation of expectations of privacy by law must have a source outside of the Fourth Amendment, either by reference to concepts of real or personal property law or to understandings that are recognized and permitted by society."); see also *Kyllo* v. *United States*, 533 U.S. 27, 40 (2001) (suggesting that had the infrared surveillance technique at issue been in "general public use," such that people understood the infrared signature of one's house was routinely exposed passerby, then such surveillance would not have been a search); *United States* v. *Jones*, 565 U.S. 400, 408 (2012) ("[O]ur very definition of reasonable expectation of privacy [is one] which we have said to be an expectation that has a source outside of the Fourth Amendment, either by reference to concepts of real or personal property law or to understandings that are recognized and permitted by society") (internal citation omitted). The principal alternative to examining ordinary people's actual expectations is for judges to rely exclusively on their own experiences and intuitions. But the American citizenry is poorer, more rural, less well-educated, and younger than the judiciary is, and those demographic differences can cause a mismatch in privacy expectations. See, *e.g.*, *Actual Expectations of Privacy*, *supra* note 5, at 255 (finding a statistically significant relationship between subject age and re-

ceptiveness to the third-party doctrine). Empirical research is a critical tool that grounds the *Katz* inquiry in reality rather than speculation.

Second, this Court routinely considers hard social science data in a variety of contexts, including the Fourth Amendment, to inform its decisionmaking. See, *e.g.*, *United States* v. *Leon*, 468 U.S. 897, 907 n.6 (1984) (relying on social science evidence to inform Court's decision not to apply exclusionary rule when officers relied in good faith on an invalid warrant); *Ballew* v. *Georgia*, 435 U.S. 223, 232–33 (1978) (jury deliberations); *In re Gault*, 387 U.S. 1, 20 n.26, 22 & 22 n.30 (1967) (due process in juvenile delinquency proceedings); *Brown* v. *Bd. of Educ. of Topeka*, 347 U.S. 483, 494–95 n.11 (1954) (effects of racial segregation); see also Shari Seidman Diamond & David J. Franklyn, *Trademark Surveys: An Undulating Path*, 92 Tex. L. Rev. 2029, 2030 (2014) (noting that many courts have considered surveys to be the "most direct form of evidence that can be offered on the consumer perception questions at issue in trademark and deceptive advertising litigation"). In the Fourth Amendment context, members of this Court and other jurists have noted that studies would be or are useful in assessing a person's reasonable expectations. See, *e.g.*, Transcript of Oral Argument at 43–44, *Brendlin* v. *California*, 551 U.S. 249 (2007) (No. 06-8120) (questions offered by Justice Breyer and Justice Scalia). Lower courts have already recognized its utility. See, *e.g.*, *Brandin* v. *State*, 669 So. 2d 280, 282 n.2 (Fla. Dist. Ct. App. 1996) (citing the Slobogin & Schumacher research); *Commonwealth* v. *Johnson*, 75 N.E.3d 51, 72 (Mass. Ct. App. 2017) (Wolohojian, J., dissenting) (citing the Kugler & Strahilevitz research); *Love* v. *State*, NO. AP-77,024, 2016 WL 7131259, at *6 (Tex. Ct. Crim. App. Dec. 7, 2016),

reh'g denied (Apr. 12, 2017) (citing the Scott-Hayward et al. research). The *Katz* test distinguishes between those forms of surveillance that are intrusive and unexpected, such that heightened procedural requirements are appropriate, and those that are minor inconveniences. An effective way to do that sorting is to use social science to identify which searches the public regards as most intrusive. Cf. Janice Nadler, *No Need to Shout: Bus Sweeps and the Psychology of Coercion*, 2002 Sup. Ct. Rev. 153, 201 (2002) (noting that "[t]he simplest way to determine whether a reasonable person voluntarily consented to a police search is simply to ask them, 'To what extent did you feel free to decline the officer's request?'").

Given courts' routine resort to these kinds of data, scholars who contend that such social science evidence is beyond judicial comprehension or unreliable are mistaken. See, *e.g.*, Orin S. Kerr, *Do We Need a New Fourth Amendment?*, 107 Mich. L. Rev. 951, 964–66 (2009). Such critiques address the first generation of empirical research, which relied exclusively on small sample sizes or convenience samples of college student respondents, and subsequent research has addressed their criticisms or shown their worries about the data to be overblown. See, *e.g.*, Christopher Slobogin, *Proportionality, Privacy, and Public Opinion: A Reply to Kerr and Swire*, 94 Minn. L. Rev. 1588, 1594–1604 (2009–2010); *Actual Expectations of Privacy*, *supra* note 5, at 231–35. And to the extent that these scholars believe the data to be aspirational or inconsistent, the authors amply demonstrated above that notwithstanding differences among samples and questions, popular sentiment coalesced in a consistent way in supporting a reasonable expectation of privacy in cell site location information. When multiple, well-designed, published, and replicated so-

cial science studies confirm that most Americans expect privacy in a given context, holding that an expectation of privacy presumptively exists under *Katz* would render Fourth Amendment law clearer and more predictable.

Recent research also answers two other common critiques. First is the concern that survey participants may think that any type of law enforcement action is highly intrusive. But that is not the case. See, *e.g.*, Chao et al., *supra* p. 7, at 47–48 tbl.2 (showing that people view brief questioning at police roadblocks and the use of automated gunshot detecting microphones in public places as relatively noninvasive); *Actual Expectations of Privacy*, *supra* note 5, at 260 tbl.9 (showing that people view cameras in parks and use of facial recognition technology at sporting events as fairly non-intrusive); Christopher Slobogin, *Privacy at Risk: The New Government Surveillance and the Fourth Amendment* 183–84 (2007) ("*Privacy at Risk*") (showing that techniques like the use of roadblocks, obtaining airplane passenger manifests, or getting traffic and criminal records, are not deemed particularly intrusive). Participants are therefore distinguishing between different types of searches, and not reflexively demanding privacy.

Second, both this Court and scholars have worried that the public's Fourth Amendment expectations may depend in part on what this Court pronounces them to be, creating circularity. See, *e.g.*, *Kyllo*, 533 U.S. at 34; Erwin Chemerinsky, *Rediscovering Brandeis's Right to Privacy*, 45 Brandeis L.J. 643, 650 (2006–2007); Richard A. Posner, *The Uncertain Protection of Privacy by the Supreme Court*, 1979 Sup. Ct. Rev. 173, 188 (1979). Yet new data suggest that the public does not alter its beliefs about Fourth Amendment protections even in the wake of well-

publicized and unanimous Supreme Court decisions that alter search and seizure law. One study conducted nationally representative surveys on four occasions to measure privacy expectations incident to arrest before and after the decision in *Riley* v. *California*, 573 U.S. __ (2014). Despite *Riley*'s strong language and holding in support of cell phone privacy, privacy expectations on that point moved only very slightly two weeks after the decision and had returned to baseline when measured one and two years later. Matthew B. Kugler & Lior Jacob Strahilevitz, *The Myth of Fourth Amendment Circularity*, 84 U. Chi. L. Rev. (forthcoming 2017).[11] Based on this research, there is ample reason to believe the public's actual expectations of privacy are stable over time and rather impervious to changes in the law.[12]

For more than twenty-five years scholars have suggested specific ways that reliable social science data can be incorporated into this Court's *Katz* test. Christopher Slobogin & Joseph E. Schumacher, *Reasonable Expectations of Privacy and Autonomy in Fourth Amendment Cases: An Empirical Look at "Understandings Recognized and Permitted by Society"*, 42 Duke L.J. 727, 732 (1993). The scholarship identifies

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[11] The empirical results of this forthcoming article have been finalized. A draft containing those results appears at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2922777.

[12] Our approach still leaves room for normative considerations. As this Court has previously recognized, a normative rather than empirical inquiry would be proper if "an individual's subjective expectations had been 'conditioned' by influences alien to well-recognized Fourth Amendment freedoms." *Smith*, 442 U.S. at 740 n.5. Further, even if this Court finds a given activity to be a search for Fourth Amendment purposes, it would still need to decide if that search is "reasonable" without a warrant.

several doctrinal hooks for incorporating such data, ranging from a proportionality test, to a resuscitated *Katz* prong 1 test, to incorporating the data into *Katz*'s prong 2 analysis. See *Privacy at Risk*, *supra* p. 14, at 33–39; *Actual Expectations of Privacy*, *supra* note 5, at 223–24, 240–44; Scott-Hayward et al., *supra* p. 8, at 49. Regardless of precisely where such data fit into the *Katz* test, it should be clear that when multiple reputable studies using divergent methods all agree that most Americans regard cell site location information as private and sensitive, courts should take these privacy expectations into account.

CONCLUSION

For the foregoing reasons, this Court should reverse the Sixth Circuit.

Respectfully submitted,

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APPENDIX

APPENDIX

Amici Curiae

Bernard Chao

Bernard Chao is an Associate Professor at the University of Denver Sturm College of Law and co-director of the Denver Empirical Justice Institute. He teaches patent, intellectual property and privacy law. Beyond research in these fields, his papers also address cognitive bias in legal decision-making.

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Ryan G. Fischer is an Associate Professor in the School of Criminology, Criminal Justice, and Emergency Management at California State University, Long Beach. He continually collaborates with colleagues with social science and legal expertise to provide methodological and statistical contributions to research studies. He has contributed to multiple research articles aimed at examining the importance of providing empirical research findings to better inform legal decision making. These articles have been pub-

lished in both law reviews and peer-reviewed social science journals.

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Henry F. Fradella, is a Professor in, and Associate Director of, the School of Criminology and Criminal Justice at Arizona State University. He researches substantive and procedural criminal law; the dynamics of legal decision-making; and the nature, sources, and consequences of variations and changes in legal institutions or processes. A fellow and past-president of the Western Society of Criminology, Dr. Fradella is the author or co-author of 10 books and more than 80 articles, book chapters, reviews, and scholarly commentaries that have been published in both law reviews and peer-reviewed social science journals.

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Chris Jay Hoofnagle is adjunct full professor of Information and of Law at the University of California, Berkeley, where he has taught computer crime law, internet law, privacy law, and courses on security and privacy technology. With colleagues, he has written several reports on privacy attitudes based on nationwide, telephonic surveys.

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Christopher Slobogin occupies the Milton Underwood Chair at Vanderbilt University Law School. His publications on the Fourth Amendment include a University of Chicago Press book and articles in the Duke, Minnesota, UCLA, and University of Chicago law reviews. He is the recipient of Distinguished Contribution Awards from the two leading forensic psychology organizations specializing in empirical work and an Associate Reporter for the American Law Institute's Principles of Policing Project.

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Alisa Smith is an Associate Professor of Legal Studies at the University of Central Florida. Her scholarship and teaching has focused on the empirical study of the Fourth Amendment and the criminal courts.

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Sonja Starr is Professor of Law and Co-Director of the Empirical Legal Studies Center at the University of Michigan. Her research employs both quantitative empirical methods and doctrinal analysis, and focuses on policing, sentencing, and prisoner reentry. Her recent work is published or forthcoming in the Quarterly Journal of Economics, the Journal of Political Economy, the American Law and Economics Review, the Yale Law Journal, and the Stanford Law Review."

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Lior Strahilevitz is the Sidley Austin Professor of Law at the University of Chicago, where he teaches privacy law. Professor Strahilevitz has published articles on privacy and/or criminal procedure in the Harvard Law Review, the University of Chicago Law Review, the California Law Review, the Northwestern University Law Review, the NYU Law Review, the Supreme Court Review, and the Journal of Legal Studies. Professor Strahilevitz is an Adviser to the American Law Institute's Principles of Law, Data Privacy Project.

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